Spungin, Susan Jay.

RAPID READING IN BRAILLE.

HV1669
Sp92

M.C. MIGEL MEMORIAL LIBRARY
American Foundation for the Blind
15 West 16th Street, New York, New York
10011

HV1669
Sp92

c.2

Rapid Reading in Braille

Paper Presented at the Sixth Quinquennial Conference
of The International Council for Education
of the Visually Handicapped
Paris, France
August 2-10, 1977

by

Susan Jay Spungin, Ed.D.
Specialist in Education
American Foundation for the Blind
New York City
New York
U. S. A.

Rapid Reading in Braille

by Susan Jay Spungin, Ed.D.

It seems most appropriate for me to address the topic of braille reading in the very country where Louis Braille was born and educated as many of us saw yesterday. However, today I will limit my presentation to some of the new findings and braille reading techniques associated with rapid reading in braille. But first let me set the stage by placing the growing interest in rapid reading in braille in the United States in historical perspective.

Although braille is now the official system of embossed writing for blind persons, the system used by the printing houses for the blind, certified by the Library of Congress, taught to teachers of the visually handicapped as part of their professional preparation, and read by thousands of blind readers, it is still stigmatized, derided, used half-heartedly, and threatened with being discarded each time there appears a new method of imparting information to the blind. This is in spite of the fact that braille continues to be the most exact medium of reading and writing for blind persons (Henderson, 1954; Tuttle, 1972).

Although books written in braille are very bulky, the rate of reading braille relatively slow (100 words per minute as opposed to 250 wpm for the sighted), braille does permit the

blind student to work independently, to take notes, to learn spelling and punctuation and to have the emotional and intellectual experiences considered important for most students.

The history of teaching reading has been as stormy as that of braille, and while the battle over braille achieved a truce when Grade 2 English braille became the standard, the war as well as lack of information about teaching methods goes on.

In general, the approaches to teaching braille have been thought to be very similar to, but not always identical with, teaching ink print reading. Rex (1970) points out the features which are unique to braille: 1) dual spelling of words in a contracted and uncontracted form; 2) multiple use of the same symbols as letter, word, contraction, punctuation; 3) similar configurations with lower-cell, one-cell and two-cell, and similar two-cell contractions; 4) rules of braille code regarding the position of characters within the word or sentence, for example, syllabication, composition signs; and 5) the non-phonetic aspects of the code.

In 1928 Kathryn Maxfield wrote The Blind Child and His Reading. Although a number of studies in the United States have been done in the intervening years on various aspects of braille reading, Maxfield's remained the definitive work until 1969, when Lowenfeld, Abel, and Hatlen's Blind Children Learn to Read was published. Although Hanley (1961) has called Maxfield's book "sadly outdated," the interesting thing is

Digitized by the Internet Archive
in 2015

https://archive.org/details/rapidreadinginbr00bysu

how relatively little is different. Except for a few areas in which professional viewpoint has changes such as in the area of visual efficiency, most of her findings are borne out by Lowenfeld's study.

Of all the methods of teaching reading, traditionally it has been believed that no one way or combination of ways seem to be the best. Sensitive and creative teachers assess the student and use whatever means seem to be most effective in helping the child learn. Lowenfeld says that the consensus of opinion is that the child should be taught by the method or methods best suited to his needs and which make it easier, more interesting, and more pleasant to learn to read.

In the United States there are certain present-day trends in the teaching of braille. The beginning braille material is double-spaced, mainly because that is the format of the American Printing House (APH) in Louisville, Kentucky. Standard size braille is used because it is felt that the enlarged cell encourages dot-by-dot perception. Rex, who did extended analyses of the readers used by beginning learners, developed experimental materials to be used by the blind child--special drills on contractions, flash cards of contractions, drills for phonic skills distorted by contractions, etc.

However it is still felt by some educators of the visually handicapped that braille is read so many different ways that

it is hard for us to put those different ways into words. As an educator I personally and professionally take issue with that statement as being non productive and an impediment to attempting to recognize and/or develop a legitimate teaching method or methods in braille reading.

If nothing else the interest in rapid reading techniques in braille reading has made people with fixed ideas about braille reading, and large print reading for that matter, stand up and attempt to justify their prejudices.

Traditionally one has associated the braille reading as an inately slow process. In the past there have been many studies on reading speeds of braille-reading blind persons, with results ranging from lows of 30-40 words per minute to highs of several hundred words per minute, each with their proponents "proving" this or that hypothesis. However, it seems to be generally agreed that the average high school or older braille reader reads about 100 words per minute. The faster reader has two distinguishing characteristics: his comprehension is better, and he uses two hands to read, with one hand beginning to read the next line before the other hand has finished the preceding line. Maxfield (1928) said that "It is estimated that in reading a French braille book a gain is made of about 15 pages to the hour by reading ahead as little as 5 cells on the next line."

One of the major criticisms of braille is that it is so slow to read. Sighted readers tend to read faster once the symbols are learned however this is not true of braille readers. Consequently efforts must constantly be made to find ways of increasing the reading rates of blind readers. Some of the interesting areas of investigation that warrant continued attention are (1) transference methods, (2) symbol recognition and (3) speed reading techniques.

"Transference of informational modes," refers to information presented simultaneously both in a mode known to the student and in another mode, to facilitate transferring understanding from one mode to the other. Recognized as a beneficial and often highly effective design in learning, it was mentioned by Maxfield in 1928 and then was neglected by the literature until the European Conference in 1971. Maxfield describes how five boys, one of above average IQ, three normally intelligent, and the fifth with a low IQ, read a story, slightly above their grade level in difficulty, which they had heard from their teacher but which they had not previously read in braille. She quotes "Yet these five boys were reading along, orally, almost as fast as they would normally speak, and were understanding what they read." She noted too that as they read they were running their fingers over the braille horizontally from left to right, with only

a slight movement up and down. This mechanism of reading braille is a constant factor in descriptions of readers with higher reading rates: their pressure is light, their movement is quick, steady, and free from up and down or rubbing motions.

After Maxfield, transference as an important learning tool disappears from the literature until 1971, when Nils Trowald, of Uppsala University's Department of Educational Research, suggested the possible use of braille in conjunction with talking books, not only to increase the braille reading speed, but also as a training aid for auditory comprehension. He felt that such techniques could be mutually beneficial.

In 1972 Cronin described how dyslexics, unable to understand and interpret visual symbols, are being taught braille. Braille, like printed language, is spatial in nature rather than temporal, as is spoken language. Since it is tactual rather than visual, it is hoped that it will be effective with persons who have dyslexia.

Symbol Recognition

Symbol recognition improvement has long been an area of concern and effort of educators of the blind. Nolan, (1971) who found that the cell is the unit of braille recognition, and he also found that it sometimes took twice as long to recognize a word as it did all of the individual symbols in the word. This has been an area which has captured the attention

of many researchers, and from the wealth of studies certain provocative implications emerge. Umstead (1972) found that braille recognition training improves reading. Weiner's (1963) study found that good readers are able to handle highly complex tactual perceptive materials better than poor readers. This study posed some questions for future research regarding the reasons for this difference: Is it because of increased neural-sensitivity in their finger-tips? Or because of greater gross and/or fine motor coordination? Ashcroft (1961) found perception problems due to the inability of the reader to suspend judgment or maintain an adequate attention span till the end of the word or phrase or sentence, and orientation problems due to reversal errors in recognition of the numerous mirror image symbols in braille. Foulke said that if slow braille reading is due to serial perception, and serial perception is due to the narrow width of the "perceptual window" through which information is obtained, then widening the "perceptual window" so that a larger number of characters can be observed at once should make for faster reading. This view had not been held by Fertsch who, in 1946, made a movie of the hands of braille readers. Observing as all other researchers have that two-handed readers are the fastest, Fertsch said the increased speed was gained "not by enlarging the readers field of view--that is, by increasing the area of sensitivity that

can be affected at one time--but simply by making more efficient use of the time spent in reading by increasing the attention and anticipation span."

Anticipation Span

Hildreth (1958), writing about sighted readers, and Maxfield (1928), about braille readers, both discuss the same phenomenon as a factor in reading speed: the A-span, or anticipation span. The A-span is the distance between the point to which eyes or hands have moved ahead and the point where interpretation is taking place. A-span is also found in all situations requiring interpretation of a succession of related impressions, rapidly and without interruption or error: listening, speaking, music sight-reading, interpreting, driving, etc. Speeding up reading depends mostly on shortening the fixation pauses and lengthening the A-span.

Foulke's study in 1964 shows that the ability to read braille is not limited to the two index fingers; Troxel's study suggests that sequences of patterns can be identified as rapidly by touch as by vision. Foulke also cites Grunwald's experiments (1966) with moving braille tape, the speed of which is not controlled by the reader. Speeds of up to 250 wpm were reached, with the readers commenting that they were able to perceive the patterns of entire phrases and

sentences. Similar results were achieved by Ashcroft, and by Kederis, Nolan, and Morris, and are borne out by numerous tests such as those indicating that Morse code is understood more easily at a smooth, rapid pace; when it is slowed down to the point where reception is letter by letter, understanding almost ceases. Other tests indicate that inkprint readers reading one letter at a time have the same reading rate as braille readers reading letter by letter.

These findings lend excitement to recent experimentation in speed or rapid reading in braille. Learning processes are involved whether one reads braille or print rather than just the factor of ink or dots. It is assumed that rapid reading is a thinking process based upon association with previous knowledge stored within the individual. Thus many of the same physio-psychological principles of learning to read rapidly should apply to both the tactile as well as the visual modality. Schale (1974) discovered in her work in training 15 blind individuals in rapid reading techniques that their reading rates on standardized tests and story-type materials increased more than 200 percent. For example McBride tells of a blind woman who started reading at 144 wpm on the first test and later scored 1,600 wpm - an increase of more than 11 times in two weeks.

Schale's work in 1975 agrees with Crandell and Wallaces (1974) findings that it is possible to read at least 225 words per minute without loss of comprehension on a standardized reading test. However Schale further supports McBride's (1974) findings, in a more controlled and scientific situation, that the blind can read brailled informal materials faster without loss of comprehension. She finds that the blind's developmental stages of learning to read braille more efficiently closely paralled those of the sighted and hypothesizes that the blind would benefit from learning to read and skim appropriate materials from grade 5 and up. The best students were trained to use at least three fingers on each hand with the left hand followed by the right for reinforcement.

All rapid reading in braille methods involve the use and development of special materials, varying hand positions, self evaluation, and motivation techniques. A seven step by step program approach can most easily be exemplified by McBride's (1974) work in this area:

1. Encounter all the words. The reader tries to encounter all the words in as short a period as possible without trying to understand their meaning. He moves his hands over the page in any way he wishes: across the page, straight down, straight up, spiraling, zigzagging, etc., using both hands and as many fingers as possible.

2. Avoiding subvocalization. He avoids subvocalizing by moving his hands on the page so rapidly he does not have time to say the words in his mind.
3. Practice. This process is continued for two days, with at least one hour per day practice divided in 10-to-20 minute periods. The object is to move the hands more and more rapidly, just being sure that every word on the page is being encountered.
4. "Bits and pieces" comprehension. On the third day the reader begins to try to recognize some of the words--about two to three to a page. The reader tries to catch a few key words, such as answers to "Who?" "Where?" "How many?" "What color?" No attempt is made to understand the story, and care is taken not to decrese the speed of the hand movements.
5. Increasing comprehension. The reader attempts to get "the thread of the story."
6. "Book report" comprehension. The reader begins to think in terms of "main ideas," "sequence of ideas," "main characters," and the relationship of the main characters to the story.
7. Daily practice to maintain and increase speed.

For the present, it can be said that rate gains after rapid reading training are highly variable within groups of visually handicapped, but fairly constantly high among groups. (Olsen, Harlow, Williams 1977) However what exactly occurs during the reading process is still not clear. Motivation appears to be partly responsible for reading faster, but it is not the total component.

In conclusion let me suggest a possible solution for braille reading rate gains regardless of the training method used.

Braille reading in the United States is at the present time and has in the past been taught by teachers who at best have had a course or two in the reading and writing of the braille code basically from the orientation of a transcriber rather than teacher. Very few teachers of the blind presently working with children have had courses concerned with specific teaching methodology of the braille code. Reasons for this in my opinion can be attributed to the lack of the development or recognition of a teaching method as well as in part the results of integrated public school education and its emphases on the similarities of instruction for the blind to that of their sighted peers.

Consequently many of the blind participants in the various rapid reading in braille programs in the United States may have had, for the first time, information on specific braille reading

techniques as well as an actual step by step teaching method. Regardless of the teaching method, I hypothesize that reading rate gains would occur. So instead of "the method" of rapid reading in braille making the difference the rate gains may be merely be a function of good teaching.

Good teaching in teaching braille in my opinion should start at the reading readiness level. We do not teach braille reading in school. We teach inkprint reading in a tactual mode of learning - creating slow readers. Real reading is faster reading and more in keeping with the way the brain operates. However, happily, some of the most exciting work of teaching faster braille reading for primary grade children has just begun by Myrna Olsen. (1977) She discusses the following twelve rapid reading principles and their implementation for use by the resource or itinerant teacher with beginning braille readers: attitudes toward reading, rapid, coordinated hand movements, return sweeping and page turning, sensitization of fingers, expansion of the tactual perceptual window, reduction of lip movements and subvocalization, elimination of regressive hand movements, high level concentration and comprehension using structural and context cues, developing flexibility in reading rate and setting rate and comprehension goals - greater detail of these reading principals will be discussed in the group session tomorrow.

Although our focus this morning is on Adolescents -

Today and Tomorrow, I believe it may be too late for the congenitally blind adolescent to permanently change poor braille reading habits and develop new reading skills. If the development of programs in rapid reading in braille have done nothing else, they have forced us to realize that with proper teaching methodology and training, braille is not of necessity slow to read. But this training must begin with the very young and proceed in a logical step by step progression forcing us to recognize what is so dearly needed in our field, a teaching method developed specifically for the braille reader.

I am not suggesting we do not already have a variety of techniques and methods we use when teaching a blind child braille. I am not suggesting we do not have the knowledge gained from research as to the most appropriate presentation and sequence of braille contractions when teaching the blind child to read. And I am certainly not suggesting these relatively new techniques in rapid reading in braille are the answer to all our teaching problems - but only one of many teaching techniques we can deploy. What I am asking for is that we use the knowledge we have and meet head on one of the most obvious individual differences many of the totally blind children have from their sighted peers - that of being a tactual learner. A learner that may not only require adaptation for success in his learning environment but

the development as well of specific curriculum materials such as in the teaching of braille - in order for us to truly meet his individual needs.

Bibliography

Ashcroft, S. C. "Programmed Instruction in Braille. *International Journal for the Education of the Blind*, 1961, II, (2), 46-50.

Crandall, J. M. & Wallace, D. H. "Speed Reading in Braille: An Empirical Study." *New Outlook for the Blind*, 1974 68, (1) 13-19.

Cronin, B. "New Technique Using Braille to Teach Print Reading to Dyslexia Children." *New Outlook for the Blind*, 1972, 66, (3).

Fertsch, P. "An Analysis of Braille Reading." *New Outlook for the Blind*, 1946, 40, 123-131.

Foulke, E. "Transfer of a Complex Perceptional Skill." *Perceptional and Motor Skills*, 1964, 18, 733-740.

Hanley, L. F. "A Brief Review of the Research on Braille Reading." *International Journal for the Education of the Blind*, 1961, 10, (3), 65-70.

Henderson, F. "Understanding Our Limitations in a Functional Education for Blind Children." *New Outlook for the Blind*, 1954, 48, 10, 347-353.

Hildreth, G. Teaching Reading: *A Guide to Basic Principles and Modern Practices*. New York: Rinehart and Winston, 1958.

Lowenfeld, B., Abel, F. L. & Hatlen, P.H. *Blind Children Learn to Read*. Springfield, Ill.: Charles C. Thomas, 1969.

Maxfield, K. E. *The Blind Child and His Reading: A Handbook for Teachers of Primary Braille Reading*. New York: American Foundation for the Blind, 1928.

McBride, V.G. "Explorations in Rapid Reading in Braille." *New Outlook for the Blind*, 1974, 68, (1), 8-12.

Nolan, C. Y. *et al. Bibliography for Research on Braille*. Louisville, Ky.: American Printing House for the Blind, 1971.

Olsen, M. R., Harlow, S. D. & Williams, J. D. "An Evaluation of McBride's Approach to Rapid Reading for Braille and Large Print Readers." *Education of the Visually Handicapped*. Vol. IX, No. 1, Spring 1977, 16-23.

Bibliography Cont.

Olsen, H. R. "Teaching Faster Braille Reading in the Primary Grades." *Journal of Visual Impairment and Blindness.* March 1977, 122-124.

Schale, Florence A Pilot Study Report To: The American Foundation for the Blind, Inc. *Teaching the Blind Rapid Reading of Braille Phase I*, January 11, 1974.

Schale, Florence, A Pilot Study Report To: The American Foundation for the Blind, Inc. *Teaching the Blind Rapid Reading of Braille Phase II*, January 1, 1975.

Troxel, D. E. "Experiments in Tactile and Visual Reading." Unpublished manuscript, Research Laboratory of Electronics, Massachusetts Institute of Technology.

Tuttle, D. W. "A Comparison of Three Reading Media for the Blind: Braille, Normal Reading, and Compressed Speech." Education of the Visually Handicapped, 1972, 4, (2), 40-44.

Ulmsted, R. G. "Improving Braille Reading." New Outlook for the Blind, 1972, 66, (6).

Weiner, L. H. "The Performance of Good and Poor Braille Readers on Certain Tests Involving Tactual Perception." *Education of the Blind*, 1963, 12, (3), 72-77.

HV1669 c.2
Sp92

Spungin, Susan Jay.

RAPID READING IN BRAILLE.

Date Due (1977)

HV1669 c.2
Sp92

Spungin, Susan Jay.

RAPID READING IN BRAILLE.

(1977)

DATE	ISSUED TO

AMERICAN FOUNDATION FOR THE BLIND
15 WEST 16th STREET
NEW YORK, N.Y. 10011